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Public Utility Commission of Texas

Memorandum

TO: Chairman Peter M. Lake
Commissioner Will McAdams
Commissioner Jimmy Glotfelty

FROM: Commissioner Lori Cobos 

DATE: November 18, 2021

RE: November 19, 2021 Work Session – Agenda Item No. 21, Project No. 52373
Review of Wholesale Electric Market Design

In the past several months, the Commission has diligently held many public work sessions and has received thousands of pages of comments from stakeholders, experts, and the public that I believe have been very helpful in identifying near-term, short-term, mid-term, and long-term phased-in actions that will provide the state with a spectrum of enhanced grid reliability in the future.¹ These important and calculated actions will help enhance grid reliability in the state by: (1) moving the Electric Reliability Council of Texas (ERCOT) away from operating the grid in a crisis-based manner; (2) adding more tools to ERCOT's arsenal that will be used to avoid conservation appeals and prevent emergency conditions; and (3) making generation, transmission, and customer demand-side improvements to help enhance grid reliability and resiliency in the state. Below is a summary of these significant reliability-driven actions.

Near-Term Actions

The following near-term actions have been taken or can be implemented by the end of this year or early next year:

- Directed ERCOT to procure more reserves to improve the margin of reliability;
- Directed ERCOT to deploy its Emergency Response Service (ERS) earlier so that participating large commercial and industrial consumers, distributed generation (DG) facilities, and aggregated customers can curtail their electricity consumption to reduce demand on the grid to help avoid conservation appeals and emergency conditions;
- Directed ERCOT to procure more ERS resources to help maintain grid reliability in the upcoming 2022 winter season;
- Directed ERCOT to use existing Transmission and Distribution Utility (TDU) distribution voltage reduction measures earlier to reduce demand on the distribution system to help avoid conservation appeals and emergency conditions;

¹ See Attachment A.

- Required weatherization of generation and transmission facilities to help maintain grid reliability and resiliency in the upcoming 2022 winter season and beyond pursuant to Senate Bill 3 (SB 3);² and
- Reforming the Operating Reserve Demand Curve (ORDC) to bring reserves online earlier to help avoid conservation appeals and emergency conditions.

Short-Term Actions

The following short-term actions can be implemented by the end of 2022 or early 2023:

- Development of a winter firm fuel product to improve grid reliability and resiliency for future winter seasons pursuant to SB 3;³
- Implementation of ERCOT's Fast Frequency Response Service (FFRS) to help stabilize grid frequency in the future;
- Expansion of ERCOT's existing Non-Spinning Reserve Service to allow loads to participate in the service to provide additional versatility for addressing forecast error or ramping issues in the future;
- Recognize the value of generation resources that provide voltage support benefits;
- Implement long-term policy changes to enhance ERCOT's ERS program;
- Modify existing TDU energy efficiency and load management programs to enhance program benefits; and
- Improve DG interconnection procedures.

Mid-Term to Long-Term Actions

The following mid-term to long-term actions can be implemented in 2023 and beyond.

- Implementation of ERCOT Contingency Reserve Service (ECRS) to provide ERCOT with an additional tool to manage increased variability and ramping issues associated with higher renewable generation penetration on the grid in the future;
- Increase TDU distribution voltage reduction measures to reduce demand on the distribution system to help avoid conservation appeals and emergency conditions in the future; and
- Implementation of a Strategic Reliability Service (SRS), a new dynamic tool that will serve as an insurance policy to help ensure grid reliability in the state in the future.⁴

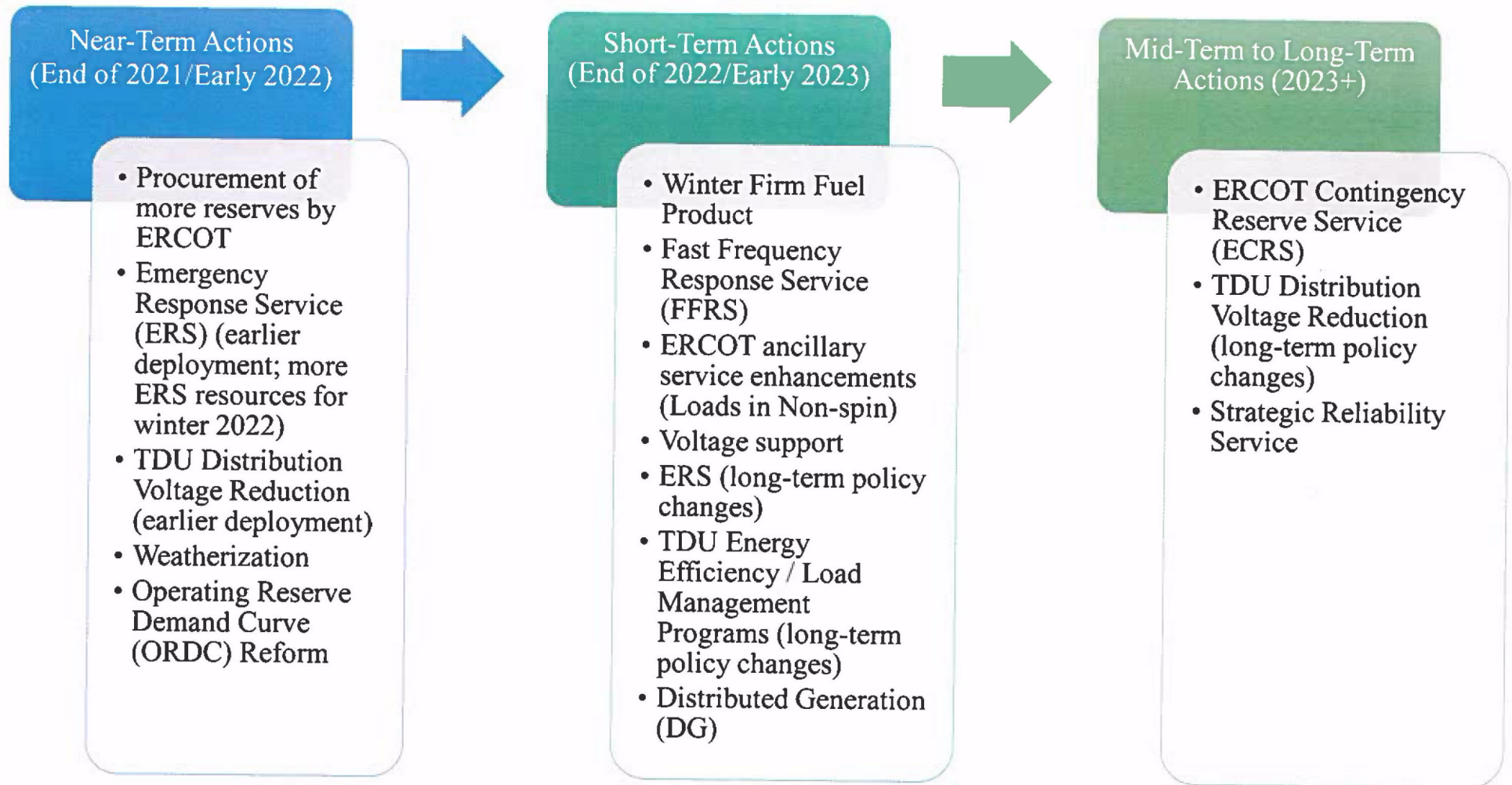
I look forward to discussing my memo with you tomorrow.

² PURA 35.0021 (Added by Acts 2021, 87th Leg., R.S., ch. 426 (SB 3), § 13) (requiring implementation of weather emergency preparedness standards).

³ PURA 39.159 (Added by Acts 2021, 87th Leg., R.S., ch. 426 (SB 3), § 18) (requiring implementation of standards applicable to dispatchable generation for purposes of ensuring reliability).

⁴ See Attachment B.

Reliability Actions: Phased-In Spectrum of Reliability



Strategic Reliability Service (SRS)

Strategic Reliability Service (SRS) is a new dynamic and flexible reliability tool that will serve as an insurance policy¹ to help ensure grid reliability in our state's rapidly evolving market that is experiencing a high penetration of renewable generation and rising electricity demand resulting from significant economic and population growth. SRS will prospectively target and meet specific reliability needs that will not be addressed by ERCOT's real-time and ancillary services market. SRS will help incent investment in new dispatchable generation and will help maintain our existing dispatchable generation fleet in ERCOT.

Importantly, SRS is consistent with the provisions in Section 14 and 18 of Senate Bill 3 (SB 3), which are set forth in Sections 35.004(g) and 39.159(b) and (c) of the Public Utility Regulatory Act (PURA). For background purposes, along with requiring the Commission to review the type, volume, and cost of ERCOT's ancillary services to determine whether those services will continue to meet the needs of the ERCOT market, PURA § 35.004(g) provides that "[t]he Commission shall [also] . . . evaluate *whether additional services are needed for reliability* in the ERCOT power region while providing adequate incentives for dispatchable generation." Notably, PURA § 39.159(b) specifically requires the Commission to ensure that ERCOT:

- (1) establishes requirements to meet the *reliability needs* of the [ERCOT] power region;
- (2) *periodically, but at least annually*, determines the quantity and characteristics of ancillary *or reliability services* necessary to ensure appropriate reliability during extreme heat and extreme cold weather conditions and during times of low non-dispatchable power production in the [ERCOT] power region;
- (3) procures ancillary *or reliability services* on a *competitive basis* to ensure appropriate reliability during extreme heat and extreme cold weather conditions and during times of low non-dispatchable power production in the [ERCOT] power region;
- (4) develops *appropriate qualifications and performance requirements* for providing the services under [Subsection] (3), including *appropriate penalties* for failure to provide the services; and
- (5) *sizes the services* procured under [Subsection] (3) to prevent prolonged rotating outages due to net load variability in high demand and low supply scenarios.

Finally, PURA § 39.159(c) states that the Commission shall ensure that "resources that provide services under Subsection (b) are dispatchable and able to *meet continuous operating requirements for the season in which the service is procured.*"

¹ In today's ERCOT market, ERCOT's ancillary services market, Emergency Response Service (ERS) program, and Black Start program currently serve as insurance policies to help maintain grid reliability.

Attachment B

From a versatility perspective, SRS can serve as a long-term market design enhancement to help ensure grid reliability in the future or can serve as a bridge while the Commission continues to evaluate and implement other potential long-term market design changes. As a starting point for discussion purposes, below is a proposed SRS design framework.

- **How will ERCOT procure SRS?**

- ERCOT will procure SRS through a competitive request for proposal (RFP) process² or competitive auction to ensure the selection of the lowest cost dispatchable resources.
- On an annual basis, ERCOT will conduct a competitive RFP process or competitive auction to partially procure a percentage of the needed SRS on a forward basis for the four seasons one year into the future.
- ERCOT will conduct a final seasonal competitive RFP process or competitive auction three weeks before the beginning of each season to procure the remaining percentage of SRS that was not procured in the annual RFP or auction (seasonal procurements will allow adjustments to meet changing dynamic market conditions of firm demand and available supply).
- ERCOT's procurement of SRS will expand and contract based on dynamic market conditions and specific seasonal reliability needs.

- **What resources will qualify for SRS?**

- Resources that meet specific accreditation requirements to ensure resource availability and firmness (e.g., weatherization, fuel supply arrangements, and seasonal certification testing).
- Resources that can synchronize to the grid within 2 hours or longer based on ERCOT's operational needs and run for a minimum of 8 hours a day for multiple consecutive days.
- New and existing dispatchable generation and potentially demand response.

- **When will SRS be deployed?**

- Deployed last in the bid stack to avoid impact on real-time energy prices and emergency conditions.

- **How will SRS participating resources be compensated?**

- ERCOT will pay participating resources the market clearing price (real-time energy price).

- **What if a qualifying SRS resource fails to perform?**

- A stringent non-performance penalty will be assessed.
- SRS participation payment will be clawed back (i.e., real-time energy price and capacity payment).

² A competitive RFP process is currently used by ERCOT to procure ERS and Black Start resources, and therefore, is an established process that is currently used by ERCOT to procure resources to maintain grid reliability.

Attachment B

- **How will the costs for SRS be recovered?**
 - Costs will be allocated to load based on load ratio share that is measured on a coincident net peak interval.
- **How will SRS help incent investment in new dispatchable generation and help maintain our existing generation fleet in ERCOT?**
 - A variety of operational tools that were previously used by ERCOT during emergency conditions are now going to be used by ERCOT to avoid conservation appeals and prevent emergency conditions; therefore, there will be less scarcity conditions in the real-time market to provide an investment signal for dispatchable generation. Stronger price signals will be needed to drive long-term investment in dispatchable generation assets.
 - SRS, in combination with an enhanced ORDC, will efficiently raise energy prices in the real-time market to drive investment in new dispatchable generation.
 - Qualifying existing generation will have another avenue to participate in the market.
- **How long will it take to implement SRS?**
 - SRS is not an ancillary service that is procured on a daily basis by ERCOT so its implementation will not be delayed by ERCOT's ongoing Energy Management System upgrade.
 - ERCOT projects it can implement SRS in 2023.